

AD-A131 953

19320A MLRS MISSILE NUMBER FV3-07 FV3-01 FV3-20 ROUND
NUMBER 455/AT2-25 4. (U) ARMY ELECTRONICS RESEARCH AND
DEVELOPMENT COMMAND WSMR NM ATM. D C KELLER JUN 83
ERADCOM/ASL-DR-1304 F/G 4/2

1/1

UNCLASSIFIED

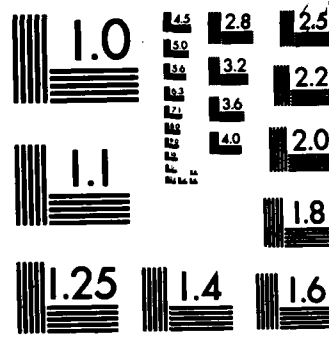
NL

END

FILMED

11

DTIC



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A

AD A 131953

(12)

INTERNATIONAL DATA REPORT

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

ELECTRONICS COMMAND

83 08 30 023

DISCLAIMER NOTICE

**THIS DOCUMENT IS BEST QUALITY
PRACTICABLE. THE COPY FURNISHED
TO DTIC CONTAINED A SIGNIFICANT
NUMBER OF PAGES WHICH DO NOT
REPRODUCE LEGIBLY.**

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DR 1304	2. GOVT ACCESSION NO. A131 903	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) 19320A MLRS Missile Number FV3-07, FV3-01, FV3-20 Round Number 455/AT2-25, 456/AT2-26, 457/AT2-27		5. TYPE OF REPORT & PERIOD COVERED
7. AUTHOR(s) White Sands Meteorological Team		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS		8. CONTRACT OR GRANT NUMBER(s) DA Task 1F665702D127-02
11. CONTROLLING OFFICE NAME AND ADDRESS US Army Electronics Research & Development Cmd Atmospheric Sciences Laboratory White Sands Missile Range, New Mexico 88002		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) US Army Electronics Research and Development Cmd Adelphi, MD 20783		12. REPORT DATE June 1983
		13. NUMBER OF PAGES 19
		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report)		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report) Approved for public release; distribution unlimited.		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Meteorological data gathered for the launching of the 19320A MLRS, Missile Number FV3-07, FV3-01, FV3-20, Round Number 455/AT2-25, 456/AT2-26, 457/AT2-27 are tabular form.		

DISPOSITION INSTRUCTIONS

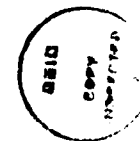
Obverse of
Cover

Destroy this report when it is no longer
needed. Do not return to the originator.

DISCLAIMER

The findings in this report are not to be
construed as an official Department of the
Army position, unless so designated by other
authorized documents.

The citation of trade names and names of
manufacturers in this report is not to be con-
strued as official Government indorsement or
approval of commercial products or services
referenced herein.



Accession For	
NTIS GRA&I	<input checked="checked" type="checkbox"/>
DTIC TAB	<input type="checkbox"/>
Unannounced	<input type="checkbox"/>
Justification	
By	
Distribution/	
Availability Codes	
Av. 11 and/or	
Dist	Special
A	23 4

CONTENTS	PAGE
INTRODUCTION-----	1
DISCUSSION-----	1
GENERAL AREA MAP-----	2
LAUNCH AREA DIAGRAM-----	3
TABLES:	
1. Surface Observations taken at 1300, 1306 and 1315 MDT at LC-33---	4
2. Anemometer-Measured Wind Speed and Direction, LC-33 Fixed Pole, taken at 1300 MDT-----	5
3. Anemometer-Measured Wind Speed and Direction, Tower Levels 1, 2, 3, and 4, taken at 1300 MDT-----	5
4. Anemometer-Measured Wind Speed and Direction, LC-33 Fixed Pole, Taken at 1306 MDT-----	6
5. Anemometer Measured Wind Speed and Direction, Tower Levels 1, 2, 3 and 4, Taken at 1306 MDT-----	6
6. Anemometer Measured Wind Speed and Direction, LC-33 Fixed Pole, Taken at 1315 MDT-----	7
7. Anemometer Measured Wind Speed and Direction, Tower Level 1, 2, 3, and 4, Taken at 1315 MDT-----	7
8. Launch and Impact Area Pilot-Balloon measured wind data Taken at 1300 MDT-----	8
9. Launch and Impact Area Pilot-Balloon Measured Wind Data Taken at 1315 MDT-----	9
10. Aiming and T-Time Computer Met Messages-----	10
11. WSD Significant Level Data at 1110 MDT-----	11
12. WSD Upper Air Data at 1110 MDT-----	12
13. WSD Mandatory Levels at 1110 MDT-----	13
14. LC-37 Significant Level Data at 1130 MDT-----	14
15. LC-37 Upper Air Data at 1130 MDT-----	15
16. LC-37 Mandatory Levels at 1130 MDT-----	16
17. WSD Significant Level Data 1310 MDT-----	17

TABLE CONT'D

18. WSD Upper Air Data at 1310 MDT-----	18
19. WSD Mandatory Levels at 1310 MDT-----	19

INTRODUCTION

19320a MLRS, Missile Numbers FV3-07, FV3-01 and FV3-20, Round Numbers 455/AT 2-25, 456/AT2-26 and 457/AT-2-27, were launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1300:01, 1306:23 and 1315:56 MDT, 30 Jun 83. The scheduled launch times were 1300, 1310 and 1320 MDT.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

1. Observations

a. Surface

(1) Standard surface observations to include pressure, temperature ($^{\circ}\text{C}$), relative humidity, dew point ($^{\circ}\text{C}$), density (gm/m^3), wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 Minutes.

(2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provided in the launch control room.

b. Upper Air

(1) Low level wind data were obtained from Pilot-Balloon observations at:

SITE ALTITUDE TIME

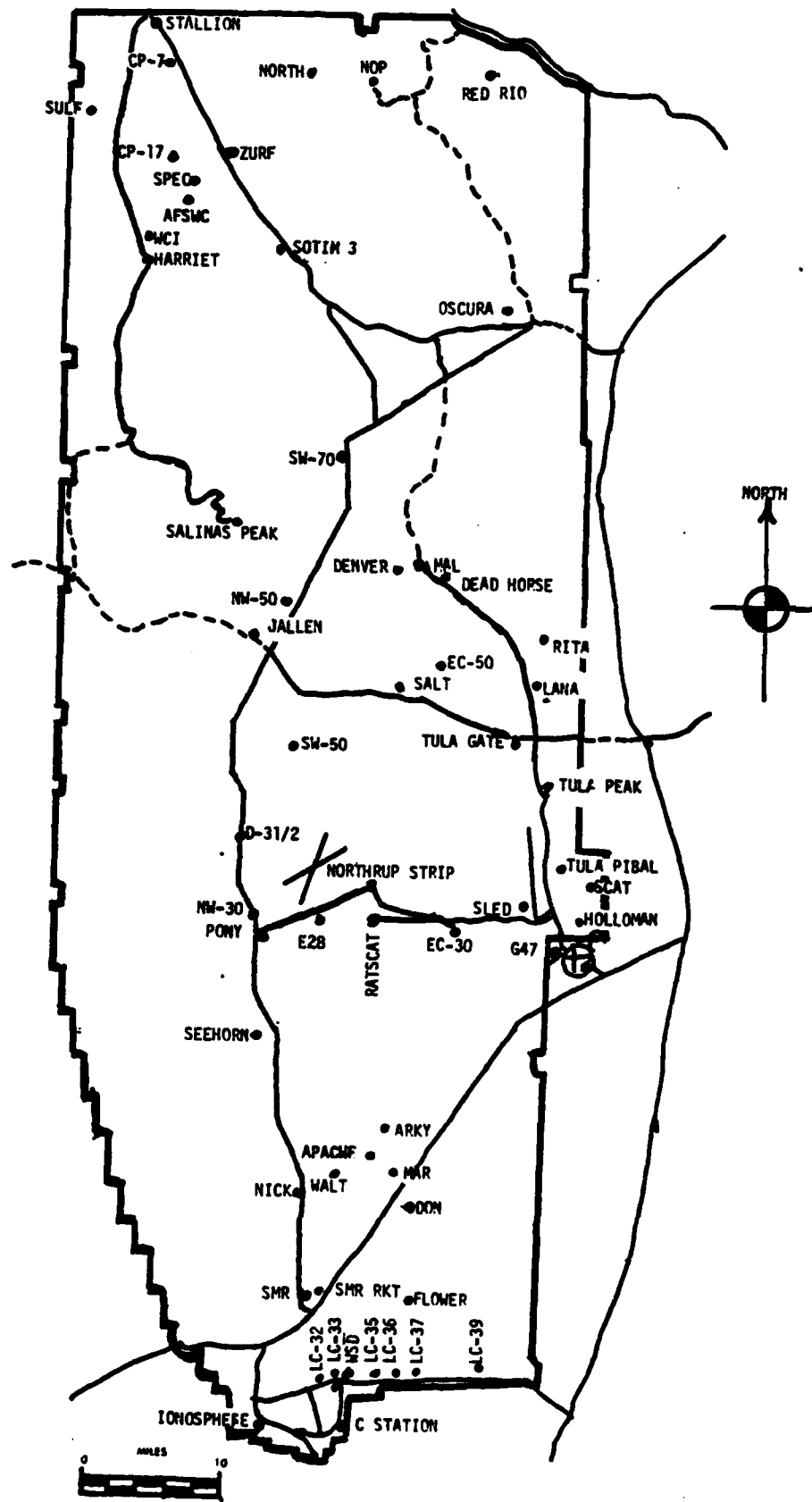
LC-33	2km	1300 and 1315 MDT
SMR	2km	1300 and 1315 MDT

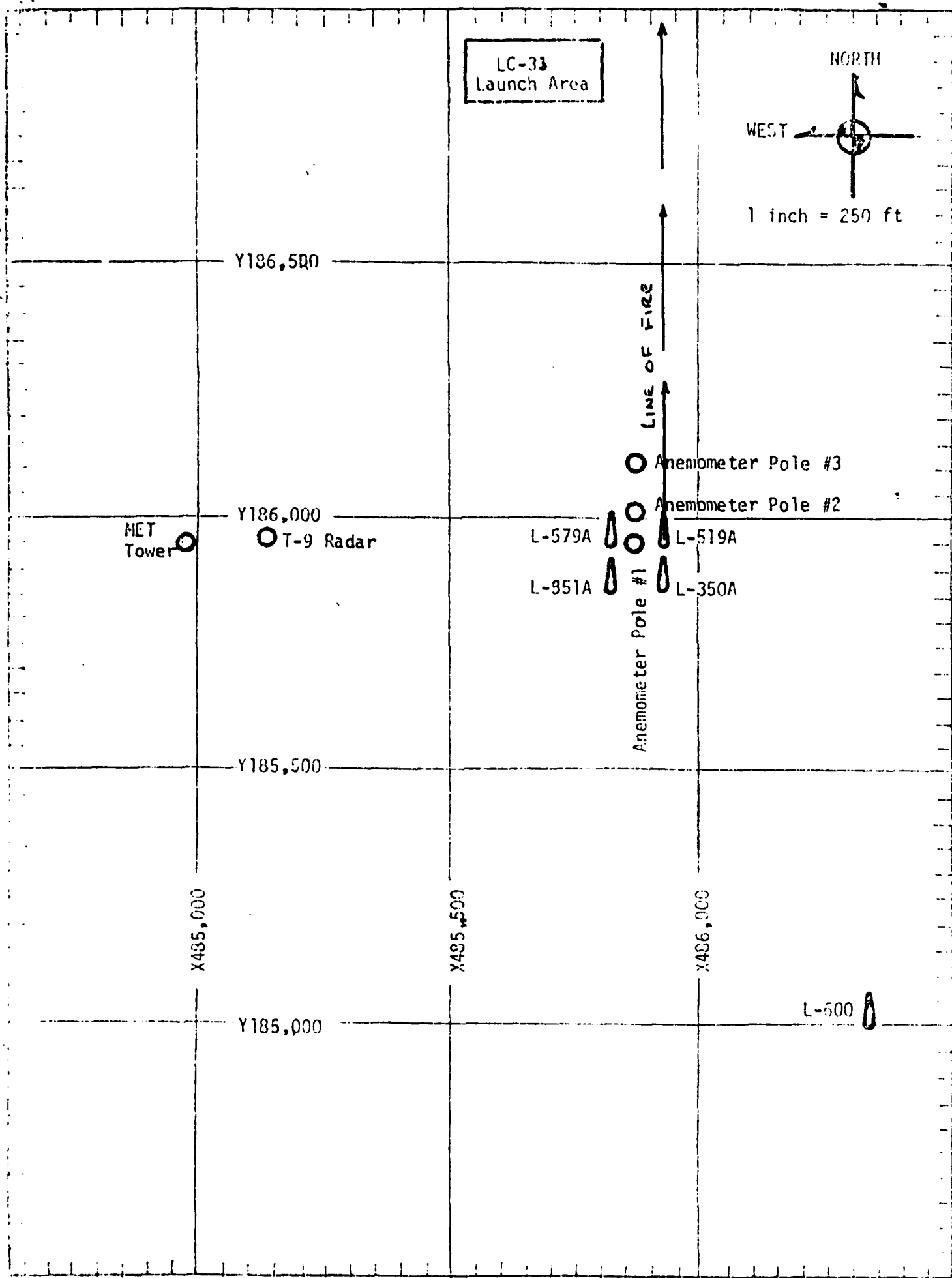
(2) Air structure data (rawinsonde) were collected at the following Met Sites.

SITE AND TIME

WSD	1110 MDT
LC-37	1130 MDT
WSD	1310 MDT

WSMR METEOROLOGICAL SITES





PROJECT SURFACE OBSERVATION

STATION <u>LC-33</u>									
TABLE <u>1</u>		DATE <u>30</u> <u>JUN</u> <u>83</u>		X= <u>484,982.64</u> Y= <u>185,957.73</u> H= <u>3995.00</u>					
DAY		MONTH		YEAR					
TIME M D I	PRESSURE mbs	TEMPERATURE OF °C	DEW POINT OF °C	RELATIVE HUMIDITY %	DENSITY gm/m ³	DIRECTION degs	WIND SPEED kts	CHARACTER kts	VISIBIL- ITY
1300	876.5	37.0	-4.2	07		165	07		40
1306	876.4	36.3	0.4	10		318	09		40
1315	876.3	36.0	2.1	12		117	08		40

OBSTRUCTIONS TO VISIBILITY	CLOUDS						REMARKS
	1st LAYER		2nd LAYER		3rd LAYER		
	AMT	TYPE	AMT	TYPE	AMT	TYPE	
	0	CU					
	0	CU					
	0	CU					

PSYCHROMETRIC COMPUTATION

TIME: MDT	1300	1306	1315
DRY BULB TEMP.	37.0	36.3	36.0
WET BULB TEMP.	15.1	15.8	16.0
WET BULB DEPR.	21.9	20.5	20.0
DEW POINT	-4.2	0.4	2.1
RELATIVE HUMID.	07	10	12

TABLE 2 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.29 Y186.012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T -30	158	05	T -30	201	06	T -30	208	05
T -20	184	05	T -20	218	05	T -20	227	05
T -10	170	05	T -10	209	05	T -10	209	07
T 0.0	167	06	T 0.0	206	05	T 0.0	207	06
T +10	166	06	T +10	205	05	T +10	200	07

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T -30	166	10	T -30	168	07
T -20	165	09	T -20	155	06
T -10	165	09	T -10	171	05
T 0.0	165	06	T 0.0	169	08
T +10	150	07	T +10	156	07

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T -30	177	10	T -30	199	05
T -20	167	09	T -20	195	05
T -10	174	09	T -10	192	06
T 0.0	177	08	T 0.0	189	08
T +10	183	10	T +10	183	06

TABLE 4 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.29 Y186.012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T -30		CALM	T -30		CALM	T -30	277	01
T -20		CALM	T -20		CALM	T -20	266	01
T -10		CALM	T -10		CALM	T -10	250	01
T 0.0		CALM	T 0.0		CALM	T 0.0		CALM
T +10		CALM	T +10		CALM	T +10		CALM

TABLE 5 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T -30	297	07	T -30	246	05
T -20	307	07	T -20	282	04
T -10	323	07	T -10	292	04
T 0.0	318	09	T 0.0	291	03
T +10	324	09	T +10	278	04

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T -30	260	09	T -30	256	04
T -20	262	07	T -20	271	04
T -10	263	08	T -10	264	03
T 0.0	260	06	T 0.0	258	04
T +10	278	09	T +10	250	03

TABLE 6 LC-33 FIXED POLE ANEMOMETER MEASURED WINDS

POLE #1 X485,874.29 Y185,958.90 H4018.74 38.7 ft. AGL			POLE #2 X485,874.29 Y186.012.00 H4033.57 53.0 ft. AGL			POLE #3 X485,877.29 Y186,116.06 H4063.92 83.6 ft. AGL		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T -30	170	06	T -30	195	03	T -30	192	08
T -20	168	06	T -20	211	04	T -20	220	07
T -10	169	07	T -10	211	03	T -10	209	07
T 0.0	170	08	T 0.0	213	05	T 0.0	207	09
T +10	167	08	T +10	211	05	T +10	212	07

TABLE 7 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #2, 62 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T -30	144	08	T -30	145	09
T -20	123	10	T -20	134	08
T -10	117	09	T -10	147	07
T 0.0	117	08	T 0.0	147	10
T +10	109	08	T +10	147	10

LEVEL #3, 102 FEET X484,982.64, Y185,057.73, H3983.00 (base)			LEVEL #4, 202 FEET X484,982.64, Y185,057.73, H3983.00 (base)		
T-TIME SEC	DIR DEG	SPEED KNOTS	T-TIME SEC	DIR DEG	SPEED KNOTS
T -30	144	10	T -30	131	09
T -20	153	10	T -20	140	09
T -10	153	10	T -10	127	10
T 0.0	147	10	T 0.0	128	10
T +10	147	10	T +10	125	09

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 30 Jun 83

SITE: LC-33

TIME: 1300 MDT

WSTM COORDINATES:

X= 484,837.34

Y= 184,124.44

H= 3,975.57

SITE: SMR

TIME 1300 MDT

WSTM COORDINATES:

X= 472,444.85

Y= 213,731.96

H= 4,000.99

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE		CALM
150	218	03
210	196	03
270	174	04
330	164	05
390	166	05
500	170	05
650	197	04
800	217	06
950	224	07
1150	217	05
1350	224	07
1550	231	06
1750	234	06
2000	211	07

Data obtained from a Double Theodolite
tracked pilot-balloon observation.

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE	200	04
150	225	03
210	236	04
270	180	02
330	235	03
390	247	04
500	217	04
650	221	08
800	229	08
950	241	08
1150	236	07
1350	234	08
1550	235	08
1750	240	11
2000	220	11

Data obtained from a RAPTS T-9
Radar Tracked pilot-balloon observation.

T-TIME PILOT-BALLOON MEASURED WIND DATA

DATE 30 Jun 83

SITE: LC-33

TIME: 1315 MDT

WSTM COORDINATES:

X= 484,837.34

Y= 184,124.44

H= 3,975.57

SITE: SMR

TIME 1315 MDT

WSTM COORDINATES:

X= 472,444.85

Y= 213,781.96

H= 4,000.99

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE		CALM
150	278	01
210	276	02
270	257	01
330	162	01
390	136	01
500	137	02
650	139	04
800	204	04
950	228	06
1150	211	06
1350	210	10
1550	213	10
1750	213	09
2000	216	11

Data obtained from a Double Theodolite
Tracked pilot-balloon observation.

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SURFACE		CALM
150	281	06
210	318	05
270	240	02
330	281	01
390	203	05
500	191	10
650	196	09
800	192	07
950	211	09
1150	188	08
1350	192	12
1550	195	10
1750	190	07
2000	208	12

Data obtained from RAPTS T-9 Radar Tracked
pilot-balloon observation.

TABLE 10

AIMING AND T-TIME COMPUTER MET MESSAGES
30 June 1983WSD 1100 MDT
METCM1324064
301700122876

00267002	30470876
01307004	30410866
02306005	30190842
03487001	29750805
04473004	29390760
05352005	28970716
06358008	28530675

LC-37 1130 MDT
METCM1324063
301750124876

00320005	30350876
01337010	30370866
02338009	30170842
03359003	29840805
04396004	29430760
05345007	29020717
06353009	28580675
07338013	28120636
08365016	27690598

WSD 1310 MDT
METCM1324064
301920122875

00302002	30950875
01398002	30720865
02306001	30380841
03411005	30000804
04394009	29530759
05379008	29030717
06381014	28600675

STATION ALTITUDE 3949.00 FEET MSL
 30 JUNE 83 1110 MDT
 ASCENDING NO. 333

SIGNIFICANT LEVEL DATA
 1810020330
 WHITE SANDS

GEODETIC COORDINATES
 32.40043 LAT DEG
 106.37033 LON DEG

TABLE 11

PRESSURE GEOMETRIC ALTITUDE MILLIBARS MSL FEET	TEMPERATURE		REL. HUM. PERCENT
	AIR DEGREES	DEWPOINT CENTIGRADE	
876.0 3089.0	30.8	1.2	15.0
862.4 4447.2	30.0	1.5	16.0
850.0 4870.1	29.0	1.5	17.0
790.7 6629.7	22.8	-2.7	18.0
787.4 7072.1	22.8	-2.7	18.0
753.4 8214.1	20.6	-5.3	17.0
700.0 10387.3	14.9	-9.9	17.0
600.0 14582.7	3.4	-12.1	31.0

STATION ALTITUDE 3989.00 FEET MSL
30 JAN 83 1110 MDT
ASCENSION NO. 330

UPPER AIR DATA
1010020330
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

TABLE 12

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	AIR TEMPERATURE DEGREES CENTIGRADE	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	WIND DATA SPEED OF KNOTS	WIND DATA DIRECTION DEGREES (TN)	INDEX OF REFRACTION
3909.0	870.0	30.8	1.2	15.0	1001.1	680.2	150.0	1.000250
4000.0	875.7	30.0	1.2	15.0	1000.8	680.2	150.2	1.000250
4500.0	860.8	29.9	1.5	16.1	996.7	679.2	160.8	1.000248
5000.0	840.2	28.5	1.2	17.1	974.2	677.7	180.8	1.000245
5500.0	831.6	26.0	.0	17.4	963.3	675.6	215.2	1.000240
6000.0	817.3	25.0	-1.2	17.6	952.5	673.6	248.4	1.000236
6500.0	803.3	23.3	-2.4	17.9	941.8	671.5	267.2	1.000232
7000.0	789.4	22.0	-3.7	18.0	927.0	671.0	278.3	1.000228
7500.0	775.6	22.0	-4.8	17.6	913.5	670.0	283.6	1.000224
8000.0	762.1	21.0	-5.9	17.2	900.6	668.9	272.1	1.000219
8500.0	748.7	19.9	-6.9	17.0	888.4	667.5	244.6	1.000215
9000.0	735.5	18.5	-8.0	17.0	876.8	666.0	218.8	1.000212
9500.0	722.5	17.2	-9.1	17.0	865.3	664.4	201.6	1.000208
10000.0	709.7	15.9	-9.9	17.0	853.9	662.9	200.6	1.000204
10500.0	697.1	14.6	-9.9	17.4	842.7	661.4	200.9	1.000201
11000.0	684.4	13.2	-9.8	19.0	831.3	659.8	201.4	1.000199
11500.0	672.0	11.8	-9.9	20.7	820.0	658.2	201.1	1.000196
12000.0	659.7	10.5	-10.1	22.4	809.0	656.6	197.2	1.000194
12500.0	647.7	9.1	-10.3	24.1	798.1	655.0	193.5	1.000191
13000.0	635.9	7.7	-10.7	25.7	787.4	653.4	189.5	1.000188
13500.0	624.4	6.4	-11.1	27.4	776.9	651.8		1.000186
14000.0	613.0	5.0	-11.5	29.1	766.5	650.2		1.000183
14500.0	601.8	3.6	-12.0	30.7	756.3	648.6		1.000181

STATION ALTITUDE 3009.00 F T MSL
30 JUNE 83
ASCENSION NO. 330

MANDATORY LEVELS
1010020330
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LON DEG

TABLE 13

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FLEET	AIR DEGREES CENTIGRADE	DEWPOINT		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4867.	29.0	1.5	17.	174.2	1.1
800.0	6614.	22.8	-2.7	18.	270.1	1.6
750.0	8447.	20.0	-5.8	17.	247.4	3.1
700.0	10377.	14.9	-9.9	17.	200.8	6.6
650.0	12412.	9.4	-10.3	24.	194.2	9.7
600.0	14565.	3.4	-12.1	31.		

STATION ALTITUDE 4051.17 FEET MSL
 30 JAN 83
 ASCENSION NO. 93

SIGNIFICANT LEVEL DATA
 INITIALS
 IC-37

GEODETIC COORDINATES
 32.40175 LAT DEG
 106.31232 LONG DEG

TABLE 14

PRESSURE	GEOMETRIC	TEMPERATURE	REL. HUM.
MILLIBARS	ALTITUDE	AIR	PERCENT
	FEET	DEGREES	
876.0	4051.4	29.8	19.0
868.9	4289.4	30.1	16.0
857.0	4030.7	28.2	17.0
706.0	10449.1	15.0	16.0
645.1	12692.4	8.6	21.0
577.1	15676.4	.7	44.0

STATION ALTITUDE 4051.17 FEET MSL
 30 JUNE 83
 ASCENSION NO. 93

UPPER AIR DATA
 1810180000
 LC-37

GEOPETIC COORDINATES
 32.40175 LAT DEG
 106.31232 LONG DEG

TABLE 15

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	TEMPERATURE DEWPOINT CENTIGRADE	REL. HUM. PERCENT	DENSITY GM/CM ³ METER	SPEED OF SOUND KNOTS	WIND DATA DIRECTION DEGREES (TH)	SPEED KNOTS	INDEX OF REFRACTION
4051.4	870.0	29.8	3.7	19.0	1003.9	679.2	180.0	5.1	1.000257
4500.0	862.6	29.5	1.3	16.3	990.1	670.7	184.3	5.2	1.000248
5000.0	847.3	28.0	.7	17.0	977.9	677.1	188.7	5.4	1.000245
5500.0	833.1	26.0	-0.3	16.9	964.9	675.7	192.8	5.7	1.000240
6000.0	818.6	25.6	-1.4	16.8	952.0	674.3	198.2	4.6	1.000236
6500.0	804.3	24.4	-2.4	16.7	939.3	672.9	209.6	2.9	1.000231
7000.0	790.3	23.3	-3.4	16.6	926.0	671.5	214.0	2.7	1.000227
7500.0	776.5	22.1	-4.5	16.5	914.4	670.1	213.4	3.0	1.000223
8000.0	763.0	20.9	-5.5	16.4	902.2	668.7	207.0	4.3	1.000219
8500.0	749.7	19.7	-6.5	16.4	890.2	667.3	203.6	5.6	1.000215
9000.0	736.6	18.5	-7.6	16.3	878.4	665.9	201.6	7.0	1.000211
9500.0	723.8	17.3	-8.6	16.2	866.7	664.5	200.5	7.6	1.000207
10000.0	711.1	16.1	-9.6	16.1	855.2	663.1	199.6	7.8	1.000204
10500.0	698.7	14.9	-10.6	16.1	843.9	661.6	198.9	8.0	1.000200
11000.0	686.1	13.4	-10.9	17.2	832.8	660.0	198.2	8.3	1.000198
11500.0	673.7	12.0	-11.3	18.3	821.9	658.3	196.7	9.2	1.000195
12000.0	661.6	10.6	-11.8	19.5	811.1	656.7	194.9	10.1	1.000192
12500.0	649.6	9.1	-12.3	20.6	800.6	655.0	192.4	11.3	1.000190
13000.0	637.7	7.0	-11.0	21.4	789.6	653.5	191.8	12.6	1.000188
13500.0	625.9	6.5	-11.0	27.2	778.6	652.0	193.8	14.0	1.000186
14000.0	614.4	5.1	-10.5	31.1	767.8	650.4			1.000184
14500.0	603.0	3.8	-10.2	34.9	757.1	648.9			1.000183
15000.0	591.9	2.5	-10.1	34.8	746.7	647.4			1.000180
15500.0	580.9	1.2	-10.1	42.6	735.4	645.8			1.000178

STATION ALTITUDE 4051.37 FEET MSL
30 JAN 83 1130 MDT
ASCENSION NO. 93

MANDATORY LEVELS
1810100093
LC-37

GEODETIC COORDINATES
32.40175 LAT DEG
106.31232 LON DEG

TABLE 16

PRESSURE GEOPOTENTIAL		TEMPERATURE		REL. HUM. PERCENT	WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT CENTIGRADE		DIRECTION DEGREES(TN)	SPEED KNOTS
850.0	4927.	28.2	.9	17.	188.1	5.4
800.0	6675.	24.1	-2.7	17.	211.1	2.9
750.0	8509.	19.7	-6.5	16.	203.5	5.7
700.0	10439.	15.0	-10.6	16.	199.0	8.0
650.0	12473.	9.2	-12.2	21.	192.5	11.3
600.0	14626.	3.5	-10.2	36.		

STATION ALTITUDE 3949.00 F.ET MSL
30 JUNE 43
ASCENDING NO. 331

1310 PDT

SIGNIFICANT LEVEL DATA
1810020331
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT UEG
106.37033 LON UEG

TABLE 17

PRESSURE GEOMETRIC ALTITUDE	TEMPERATURE AIR	TEMPERATURE DEWPOINT	REL. HUM. PERCENT
MILLIBARS MSL FELT	DEGREES	CENTIGRADE	
875.0	35.0	3.5	14.0
856.4	31.0	1.4	15.0
850.0	30.5	1.0	15.0
740.4	20.5	-6.1	10.0
703.0	14.9	-9.2	18.0
649.0	10.2	-10.0	23.0
600.0	3.7	-11.1	33.0

STATION ALTITUDE 3989.00 FSL
30 JUNE 63
ASCENDING NO. 331

1310 MDT

UPPER AIR DATA
1010020331
WHITE SANDS

TABLE 18

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

GEOMETRIC ALTITUDE MSL FEET	PRESSURE	AIR TEMPERATURE DEGREES CENTIGRADE	REL. HUMIDITY PERCENT	DENSITY GM/CUBIC METER	SPEED OF SOUND KNOTS	WIND DATA		INDEX OF REFRACTION
						DIRECTION DEGREES (TN)	SPEED KNOTS	
3989.0	875.0	25.0	14.0	985.0	685.0	170.0	1.9	1.000251
4000.0	874.7	24.9	14.0	985.7	685.0	170.4	1.9	1.000251
4500.0	863.0	21.0	14.8	979.5	681.3	185.6	2.2	1.000247
5000.0	845.0	20.1	15.0	968.4	679.4	197.4	2.5	1.000242
5500.0	830.8	28.7	15.2	956.1	677.8	206.0	2.9	1.000238
6000.0	815.6	27.4	15.3	944.0	676.3	220.4	3.6	1.000234
6500.0	802.5	26.1	15.4	932.0	674.7	232.0	4.6	1.000230
7000.0	780.7	24.7	15.6	920.2	673.2	231.1	5.6	1.000226
7500.0	775.1	23.4	15.7	908.5	671.6	228.6	6.7	1.000222
8000.0	761.8	22.1	15.8	897.0	670.1	224.2	8.3	1.000218
8500.0	740.7	20.7	16.0	885.7	668.5	221.7	9.3	1.000214
9000.0	735.5	19.2	16.5	874.7	666.8	217.6	9.0	1.000211
9500.0	722.5	17.7	17.0	863.9	665.0	210.2	8.2	1.000208
10000.0	709.7	16.1	17.6	853.3	663.1	208.3	8.4	1.000205
10500.0	697.1	14.6	18.3	842.5	661.4	211.2	9.4	1.000202
11000.0	684.6	13.5	19.5	830.6	660.2	215.8	11.2	1.000199
11500.0	672.3	12.4	20.7	818.8	658.9	213.8	13.1	1.000196
12000.0	660.2	11.3	21.9	807.3	657.6	212.2	14.5	1.000194
12500.0	648.3	10.1	23.1	796.0	656.2	210.2	14.7	1.000191
13000.0	636.4	8.6	25.5	785.6	654.4			1.000189
13500.0	624.7	7.0	27.9	775.4	652.7			1.000186
14000.0	613.3	5.5	30.2	765.4	650.9			1.000184
14500.0	602.0	4.0	32.6	755.5	649.1			1.000181

Copy not available to DTIC does not
penetrate fully legible reproduction

STATION ALTITUDE 3989.00 FEET SL
30 JUL 83 1310 MDT
ASCLNS1,N 10. 531

MANDATORY LEVELS
1810020331
WHITE SANDS

GEODETIC COORDINATES
32.40043 LAT DEG
106.37033 LONG DEG

TABLE 19

PRESSURE (POTENTIAL)		TEMPERATURE		REL. HUM.		WIND DATA	
MILLIBARS	FEET	AIR DEGREES CENTIGRADE	DEWPOINT PERCENT	PERCENT	DIRECTION (DEGREES(TN))	SPEED KNOTS	
850.0	4840.	30.5	1.0	15.	194.0	2.4	
800.0	6600.	25.8	-2.3	15.	231.8	4.8	
750.0	8443.	20.9	-5.9	16.	221.8	9.2	
700.0	10377.	14.9	-9.2	18.	209.8	9.0	
650.0	12415.	10.3	-10.0	23.	210.5	14.7	
600.0	14574.	3.7	-11.1	33.			

END

FILMED

9-83

DTIC